

Log Tank Service

API Reference

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1 Before You Start

Welcome to *Log Tank Service API Reference*. LTS collects log data from hosts and cloud services. By processing massive amounts of logs efficiently, securely, and in real time, LTS provides useful insights for you to optimize the availability and performance of cloud services and applications. It also helps you efficiently perform real-time decision-making, device O&M, and service trend analysis.

Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, contact the administrator.

Concepts

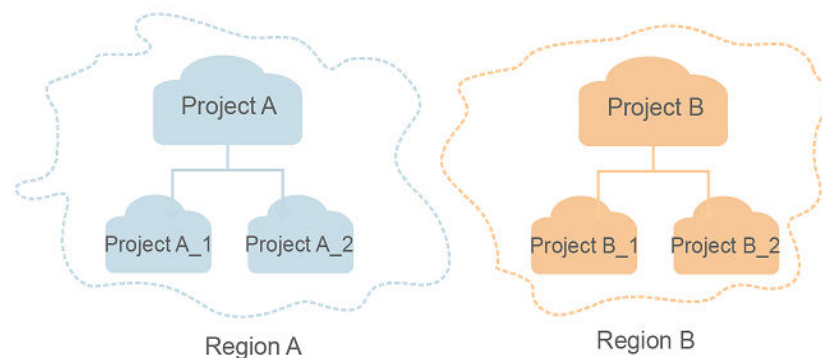
- **Domain**
A domain has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The domain should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.
- **User**
An IAM user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).
The account name, username, and password will be required for API authentication.
- **Region**
A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.
- **AZ**
An AZ comprises one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Compute, network, storage, and other resources in an AZ are logically divided into

multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

- Project

Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. For more refined access control, create sub-projects under a project and create resources in the sub-projects. Users can then be assigned permissions to access only specific resources in the sub-projects.

Figure 1-1 Project isolating model



- Enterprise project

Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated from each other and can be directly transferred between the projects.

For details about enterprise projects and how to obtain enterprise project IDs, see *Enterprise Management User Guide*.

2 API Overview

With the extension APIs provided by LTS, you can use the basic LTS functions. For example, you can query API versions, create, query, and delete log groups or log streams.

Table 2-1 API description

Category	Description
Log group management	APIs for creating, querying, and deleting log groups
Log stream management	APIs for creating, querying, and deleting log streams
Log management	APIs for querying logs
Log transfer	APIs for transferring logs in one or more specified log streams to other services

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for obtaining a user token as an example to demonstrate how to call an API.

Request URI

A request URI is in the following format:

{URI-scheme} :// {Endpoint} / {resource-path} ? {query-string}

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

- **URI-scheme:** protocol used to transmit requests. All APIs use HTTPS.
- **Endpoint:** domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from the administrator.
- **resource-path:** API access path. Obtain the path from the URI of an API. For example, the **resource-path** of the API for obtaining a user token is **/v3/auth/tokens**.
- **query-string:** query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of *Parameter name=Parameter value*. For example, **?limit=10** indicates that a maximum of 10 data records will be displayed.

NOTE

To simplify the URI display, each API is provided only with a **resource-path** and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server:

- **GET**: requests a server to return specified resources.
- **PUT**: requests a server to update specified resources.
- **POST**: requests a server to add resources or perform special operations.
- **DELETE**: requests a server to delete specified resources, for example, objects.
- **HEAD**: same as GET except that the server must return only the response header.
- **PATCH**: requests a server to update a part of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the case of the API used to obtain a user token, the request method is **POST**. The request is as follows:

```
POST https://{endpoint}}/v3/auth/tokens
```

Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Table 3-1 describes common request headers.

Table 3-1 Common request headers

Parameter	Description	Mandatory	Example Value
Host	Server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>Hostname.Port number</i> . If the port number is not specified, the default port is used. The default port number for https is 443 .	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443

Parameter	Description	Mandatory	Example Value
Content-Type	Type (or format) of the message body. The default value application/json is recommended. Other values of this field will be provided for specific APIs if any.	Yes	application/json
Content-Length	Length of the request body. The unit is byte.	No	3495
X-Project-Id	Project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No	e9993fc787d94b6c886cb aa340f9c0f4
X-Auth-Token	User token. It is a response to the API for obtaining a user token. This API is the only one that does not require authentication. After the request is processed, the value of X-Subject-Token in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQc- Co...ggg1BBIINPXsidG9rZ

 NOTE

In addition to supporting token-based authentication, APIs also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign a request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.

For details, see "AK/SK-based Authentication" in [Authentication](#).

```
POST https://{{endpoint}}/v3/auth/tokens
Content-Type: application/json
```

Request Body (Optional)

This part is optional. A request body is often sent in a structured format (for example, JSON or XML) as defined in the **Content-Type** header field. If the

request body contains full-width characters, these characters must be coded in UTF-8.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to obtain a user token, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace the fields in bold with the actual values.

- **accountid**: ID of the account to which the IAM user belongs.
- **username**: username of the IAM user to be created.
- **email**: email address of the IAM user.
- *********: password of the IAM user.

NOTE

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. For details, see Obtaining a User Token.

```
POST https://{endpoint}}/v3/auth/tokens
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****

{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

By now, all data required for an API request is available. You can send the request to call the API through [curl](#), [Postman](#), or coding. In the response to the API used to obtain a user token, **x-subject-token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

You can use either of the following authentication methods when calling APIs:

- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair. AK/SK-based authentication is recommended because it is more secure than token-based authentication.
- Token-based authentication: Requests are authenticated using a token.

AK/SK-based Authentication

NOTE

- AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token-based authentication is recommended.
- You can use the AK/SK in a permanent or temporary access key. The **X-Security-Token** field must be configured if the AK/SK in a temporary access key is used, and the field value is **security_token** of the temporary access key.

In AK/SK-based authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.
- SK: secret access key used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK-based authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests.

NOTICE

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

Token-based Authentication

NOTE

- The validity period of a token is 24 hours. If a token is used for authentication, cache it to prevent frequent API calling.
- Ensure that the token is valid when you use it. Using a token that will soon expire may cause API calling failures.

A token is used to acquire temporary permissions. During API authentication using a token, the token is added to requests to get permissions for calling the API.

You can obtain a token by calling the Obtaining a User Token API. When you call the API, set **auth.scope** in the request body to **project**.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****#",
          "domain": {
            "name": "domainname"
          }
        }
      }
    }
  },
  "scope": {
```

```
    "project": {  
      "name": "xxxxxxx"  
    }  
  }  
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFGF....**, add **X-Auth-Token: ABCDEFG....** to a request as follows:

```
GET https://{{endpoint}}/v3/auth/projects  
Content-Type: application/json  
X-Auth-Token: ABCDEFG....
```

3.3 Response

After sending a request, you will receive a response, including a status code, response header, and response body.

Status Code

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For details, see [Status Codes](#).

If status code 201 is returned for the API for , the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-type**.

For the API for , the message header shown in [Figure 3-1](#) is returned.

Figure 3-1 Response header

```
"X-Frame-Options": "SAMEORIGIN",  
"X-IAM-ETag-id": "2562365939-d8f6f12921974cb097338ac11fceac8a",  
"Transfer-Encoding": "chunked",  
"Strict-Transport-Security": "max-age=31536000; includeSubdomains;",  
"Server": "api-gateway",  
"X-Request-Id": "af2953f2bcc67a42325a69a19e6c32a2",  
"X-Content-Type-Options": "nosniff",  
"Connection": "keep-alive",  
"X-Download-Options": "noopen",  
"X-XSS-Protection": "1; mode=block;",  
"X-IAM-Trace-Id": "token_ _null_af2953f2bcc67a42325a69a19e6c32a2",  
"Date": "Tue, 21 May 2024 09:03:40 GMT",  
"Content-Type": "application/json; charset=utf8"
```

Response Body (Optional)

The body of a response is often returned in structured format as specified in the **Content-type** header field. The response body transfers content except the response header.

For the API for , the following message body is returned. The following is part of the response body:

```
{
  "user": {
    "id": "c131886aec...",
    "name": "IAMUser",
    "description": "IAM User Description",
    "areacode": "",
    "phone": "",
    "email": "****@***.com",
    "status": null,
    "enabled": true,
    "pwd_status": false,
    "access_mode": "default",
    "is_domain_owner": false,
    "xuser_id": "",
    "xuser_type": "",
    "password_expires_at": null,
    "create_time": "2024-05-21T09:03:41.000000",
    "domain_id": "d78cbac1.....",
    "xdomain_id": "30086000.....",
    "xdomain_type": "",
    "default_project_id": null
  }
}
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
  "error_msg": "Request body is invalid.",
  "error_code": "IAM.0011"
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 API Calling Examples

This section describes how to create a log group by calling APIs.

NOTE

The token obtained from Identity and Access Management (IAM) is valid for only 24 hours. If you want to use the same token for authentication, cache it to avoid frequent calling of the IAM API.

Involved APIs

If you use a token for authentication, you must obtain the token and add **X-Auth-Token** to the request header when making an API call.

- IAM API used to obtain the token
- LTS API used to create a log group

Procedure

1. Obtain the token by referring to [Making an API Request](#).
2. Send **POST /v2/{project_id}/groups**.
3. Add **Content-Type** and **X-Auth-Token** to the request header.
4. Specify the following parameters in the request body:

```
POST /v2/{project_id}/groups
{
  "log_group_name":"test001", //Log group name (The parameter is mandatory and its value is a string.)
  "ttl_in_days":"7", //Log expiration time (The value is an integer. Retain the default value.)
}
```

If the request is successful, information about the created log group is returned.

```
{
  "log_group_id":"2a0089e4-3001-11e9-9e9d-286ed48xxx", //Log group ID (The value is a string.)
}
```

If the request fails, an error code and error description are returned. For details, see [Error Codes](#).

5 APIs

All API URIs described in this chapter are case-sensitive.

5.1 Log Group Management

5.1.1 Creating a Log Group

Function

This API is used to create a log group.

URI

POST /v2/{project_id}/groups

Table 5-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .

Request Parameters

Table 5-2 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set this parameter to application/json; charset=UTF-8 .

Table 5-3 Request body parameters

Parameter	Mandatory	Type	Description
log_group_name	Yes	String	Name of the log group to be created. Configuration rules: A name can contain 1 to 64 characters. Use only letters, digits, underscores (_), hyphens (-), and periods (.). Do not start with a period or underscore or end with a period.
ttl_in_days	Yes	Integer	Log retention period.
tags	No	Array of TagsBody objects	Tag field information.

Table 5-4 TagsBody

Parameter	Mandatory	Type	Description
key	No	String	Tag key.
value	No	String	Tag value.

Response Parameters

Status code: 201

Table 5-5 Response body parameters

Parameter	Type	Description
log_group_id	String	ID of the log group to be created.

Status code: 400

Table 5-6 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401**Table 5-7** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-8** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-9** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503**Table 5-10** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a log group.

```
POST https://{endpoint}/v2/{project_id}/groups
/v2/{project_id}/groups
{
  log_group_name: "lts-group-01nh",
  ttl_in_days: 7
}
```

Example Responses

Status code: 201

The request is successful and the log group has been created.

```
{
  "log_group_id" : "b6b9332b-091f-4b22-b810-264318d2d664"
}
```

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{
  "error_code" : "LTS.0009",
  "error_msg" : "Failed to validate the request body"
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0102",
  "error_msg" : "Failed to create log group"
}
```

Status Codes

Status Code	Description
201	The request is successful and the log group has been created.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

5.1.2 Querying All Log Groups of an Account

Function

This API is used to query all log groups of an account.

URI

GET /v2/{project_id}/groups

Table 5-11 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .

Request Parameters

Table 5-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json;charset=UTF-8 .

Response Parameters

Status code: 200

Table 5-13 Response body parameters

Parameter	Type	Description
log_groups	Array of LogGroup objects	Log group information.

Table 5-14 LogGroup

Parameter	Type	Description
creation_time	Long	Time when a log group was created.
log_group_name	String	Log group name.
log_group_id	String	Log group ID.
ttl_in_days	Integer	Log retention period (days).
tag	Map<String,String>	Log group tags.

Status code: 401

Table 5-15 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.

Status code: 403**Table 5-16** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-17** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query all log groups of an account.

```
POST https://{endpoint}/v2/{project_id}/groups
/v2/{project_id}/groups
```

Example Responses

Status code: 200

The request is successful.

```
{
  "log_groups": [ {
    "creation_time": 1630547141853,
    "log_group_name": "lts-group-01nh",
    "log_group_id": "b6b9332b-091f-4b22-b810-264318d2d664",
    "ttl_in_days": 7
  } ]
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code": "LTS.0003",
```

```
{
  "error_msg": "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code": "LTS.0001",
  "error_msg": "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code": "LTS.0010",
  "error_msg": "The system encountered an internal error"
}
```

Status Codes

Status Code	Description
200	The request is successful.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

5.1.3 Deleting a Log Group

Function

This API is used to delete a specified log group. If log transfer is enabled for log streams in a log group, you need to disable the log transfer before the deletion.

URI

DELETE /v2/{project_id}/groups/{log_group_id}

Table 5-18 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .
log_group_id	Yes	String	Log group ID. For details about how to obtain it, see Obtaining a Log Group ID .

Request Parameters

Table 5-19 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json; charset=UTF-8 .

Response Parameters

Status code: 204

The request is successful and the log group has been deleted.

Status code: 400

Table 5-20 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-21 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-22** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-23** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Delete a log group.

```
DELETE https://{endpoint}/v2/{project_id}/groups/{log_group_id}
/v2/{project_id}/groups/{log_group_id}
```

Example Responses

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{
  "error_code" : "LTS.0201",
  "error_msg" : "The log group is not existed"
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
```



```
{
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0103",
  "error_msg" : "Failed to delete log group"
}
```

Status Codes

Status Code	Description
204	The request is successful and the log group has been deleted.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

5.2 Log Stream Management

5.2.1 Creating a Log Stream

Function

This API is used to create a log stream in a specified log group.

URI

POST /v2/{project_id}/groups/{log_group_id}/streams

Table 5-24 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .
log_group_id	Yes	String	ID of the log group to which the log stream to be created belongs. Generally, it contains 36 characters.

Request Parameters

Table 5-25 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json; charset=UTF-8 .

Table 5-26 Request body parameters

Parameter	Mandatory	Type	Description
log_stream_name	Yes	String	Name of the log stream to be created.
ttl_in_days	No	Integer	Log retention period. Minimum value: 1 Maximum value: 365
tags	No	Array of TagsBody objects	Tag field information.

Table 5-27 TagsBody

Parameter	Mandatory	Type	Description
key	No	String	Tag key.
value	No	String	Tag value.

Response Parameters

Status code: 201

Table 5-28 Response body parameters

Parameter	Type	Description
log_stream_id	String	ID of the log stream to be created.

Status code: 400

Table 5-29 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-30 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403

Table 5-31 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-32** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a log stream.

```
POST https://{endpoint}/v2/{project_id}/groups/{log_group_id}/streams
/v2/{project_id}/groups/{log_group_id}/streams
{
  "log_stream_name": "lts-stream-02kh"
}
```

Example Responses

Status code: 201

The request is successful and the log stream has been created.

```
{
  "log_stream_id" : "c54dbc58-0fd8-48ed-b007-6d54981427a7"
}
```

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{
  "error_code" : "LTS.0009",
  "error_msg" : "Failed to validate the request body"
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0202",
  "error_msg" : "Failed to create Log stream"
}
```

Status Codes

Status Code	Description
201	The request is successful and the log stream has been created.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.

Error Codes

See [Error Codes](#).

5.2.2 Querying All Log Streams in a Specified Log Group

Function

This API is used to query information about all log streams in a specified log group.

URI

GET /v2/{project_id}/groups/{log_group_id}/streams

Table 5-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .
log_group_id	Yes	String	ID of the log group whose log streams will be queried. Generally, it contains 36 characters.

Request Parameters

Table 5-34 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json;charset=UTF-8 .

Response Parameters

Status code: 200

Table 5-35 Response body parameters

Parameter	Type	Description
log_streams	Array of LogStreamResBody objects	Returned log stream information.

Table 5-36 LogStreamResBody

Parameter	Type	Description
creation_time	Long	Creation time.
log_stream_id	String	Log stream ID.
log_stream_name	String	Log stream name.
tag	Map<String,String>	Log stream tags.
filter_count	Integer	Number of filters.
is_favorite	Boolean	Whether to add a log stream to favorites.

Status code: 401

Table 5-37 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-38** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-39** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Query all log streams in a specified log group.

```
GET https://{endpoint}/v2/{project_id}/groups/{log_group_id}/streams
/v2/{project_id}/groups/{log_group_id}/streams
```

Example Responses

Status code: 200

The request is successful.

```
{
  "log_streams": [ {
    "creation_time": 1630549842955,
    "log_stream_name": "lts-stream-02kh",
    "log_stream_id": "c54dbc58-0fd8-48ed-b007-6d54981427a7",
    "filter_count": 0
  } ]
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0010",
  "error_msg" : "The system encountered an internal error"
}
```

Status Codes

Status Code	Description
200	The request is successful.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.

Error Codes

See [Error Codes](#).

5.2.3 Deleting a Log Stream

Function

This API is used to delete a specified log stream from a specified log group. If log transfer is enabled for a log stream, you need to disable the log transfer before the deletion.

URI

DELETE /v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}

Table 5-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .
log_group_id	Yes	String	Log group ID. For details about how to obtain it, see Obtaining a Log Group ID .
log_stream_id	Yes	String	Log stream ID. For details about how to obtain it, see Obtaining a Log Stream ID .

Request Parameters

Table 5-41 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json; charset=UTF-8 .

Response Parameters

Status code: 204

The request is successful and the log stream has been deleted.

Status code: 400

Table 5-42 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401

Table 5-43 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-44** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-45** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 503**Table 5-46** Response body parameters

Parameter	Type	Description
-	String	
–	String	ServiceUnavailable: The requested service is unavailable.

Example Requests

Delete a log stream.

```
DELETE https://{endpoint}/v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}
/v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}
```

Example Responses

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{
  "error_code" : "LTS.0208",
  "error_msg" : "The log stream does not existed"
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0203",
  "error_msg" : "Failed to delete Log stream"
}
```

Status Codes

Status Code	Description
204	The request is successful and the log stream has been deleted.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

5.3 Log Management

5.3.1 Querying Logs

Function

This API is used to query logs in a specified log stream.

URI

POST /v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/
query

Table 5-47 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .
log_group_id	Yes	String	Log group ID. For details about how to obtain it, see Obtaining a Log Group ID .
log_stream_id	Yes	String	Log stream ID. For details about how to obtain it, see Obtaining a Log Stream ID .

Request Parameters

Table 5-48 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json;charset=UTF-8 .

Table 5-49 Request body parameters

Parameter	Mandatory	Type	Description
start_time	Yes	String	Start time of the query (UTC, in ms). NOTE Maximum query time range: 30 days
end_time	Yes	String	End time of the query (UTC, in ms). NOTE Maximum query time range: 30 days
labels	No	Map<String,String>	Log filter criteria, which vary by log source.
keywords	No	String	Keyword used for log search. A keyword is a word between two adjacent delimiters, for example, error .
line_num	No	String	Sequence number of the final log event in the last query result. This parameter is not required for the first query, but is required for subsequent pagination queries. The value can be obtained from the response of the last query. The value of line_num should be between the values of start_time and end_time .
is_desc	No	Boolean	Whether the search order is descending or ascending. The default value is false , indicating that search results are displayed in ascending order.
search_type	No	String	The value is init (default value) for the first query, or forwards or backwards for a pagination query. This parameter is used together with is_desc for pagination queries.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of log events queried each time. The default value is 50 when this parameter is not set. You are advised to set this parameter to 100 .
highlight	No	Boolean	Whether the keyword is highlighted. The value can be true (highlighted; default) or false (not highlighted).
is_count	No	Boolean	Whether the number of log events is counted. The value can be false (not counted; default) or true (counted).
is_iterative	No	Boolean	Whether the log query is iterative. The value can be false (not iterative; default) or true (iterative).

Response Parameters

Status code: 200

Table 5-50 Response body parameters

Parameter	Type	Description
logs	Array of LogContents objects	Log information.
count	Integer	Number of log events.
isQueryComplete	Boolean	Whether the query is complete.

Table 5-51 LogContents

Parameter	Type	Description
content	String	Raw log data.
line_num	String	Sequence number of a log line.
labels	Map<String,String>	Labels contained in a log event. The labels vary depending on log events.

Status code: 400**Table 5-52** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 401**Table 5-53** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-54** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-55** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

- Query logs.

```
POST https://{endpoint}/v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query
```

```
2020-07-25/14:44:42 this log is Error NO 1
2020-07-25/14:44:43 this log is Error NO 2
2020-07-25/14:44:44 this log is Error NO 3
2020-07-25/14:44:45 this log is Error NO 4
```

```
2020-07-25/14:44:46 this log is Error NO 5
2020-07-25/14:44:47 this log is Error NO 6
2020-07-25/14:44:48 this log is Error NO 7
2020-07-25/14:44:49 this log is Error NO 8
2020-07-25/14:44:50 this log is Error NO 9
2020-07-25/14:44:51 this log is Error NO 10
```

- For the first query:

```
v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query
```

```
{
  "start_time" : 1595659200000,
  "end_time" : 1595659500000,
  "labels" : {
    "hostName" : "ecs-kwxtest"
  },
  "keywords" : "log",
  "limit" : 10,
  "is_count" : true
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 6**, **NO 7**, and **NO 8** are the target log events):

```
v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query
```

```
{
  "start_time" : 1595659200000,
  "end_time" : 1595659500000,
  "labels" : {
    "hostName" : "ecs-kwxtest"
  },
  "keywords" : "log",
  "line_num" : "1595659490239433658",
  "is_desc" : "false",
  "search_type" : "forwards",
  "limit" : "3",
  "is_count" : true
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 8**, **NO 7**, and **NO 6** are the target log events):

```
v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query
```

```
{
  "start_time" : 1595659200000,
  "end_time" : 1595659500000,
  "labels" : {
    "hostName" : "ecs-kwxtest"
  },
  "keywords" : "log",
  "line_num" : "1595659490239433658",
  "is_desc" : "true",
  "search_type" : "backwards",
  "limit" : "3",
  "is_count" : true
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 2**, **NO 3**, and **NO 4** are the target log events):

```
v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query
```

```
{
  "start_time" : 1595659200000,
  "end_time" : 1595659500000,
  "labels" : {
```



```
"hostName" : "ecs-kwxtest"
},
"keywords" : "log",
"line_num" : "1595659490239433658",
"is_desc" : "false",
"search_type" : "backwards",
"limit" : "3",
"is_count" : true
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 4**, **NO 3**, and **NO 2** are the target log events):

v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query

```
{
  "start_time" : 1595659200000,
  "end_time" : 1595659500000,
  "labels" : {
    "hostName" : "ecs-kwxtest"
  },
  "keywords" : "log",
  "line_num" : "1595659490239433658",
  "is_desc" : "true",
  "search_type" : "forwards",
  "limit" : "3",
  "is_count" : true
}
```

Example Responses

Status code: 200

The request is successful.

- For the first query:

```
{
  "count" : 32,
  "logs" : [ {
    "content" : "2020-07-25/14:44:42 this <HighLightTag>log</HighLightTag> is Error NO 1",
    "labels" : {
      "hostName" : "ecs-kwxtest",
      "hostIP" : "192.168.0.156",
      "appName" : "default_appname",
      "containerName" : "CONFIG_FILE",
      "clusterName" : "CONFIG_FILE",
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
      "podName" : "default_procname",
      "clusterId" : "CONFIG_FILE",
      "nameSpace" : "CONFIG_FILE",
      "category" : "LTS"
    },
    "line_num" : "1595659490239433654"
  }, {
    "content" : "2020-07-25/14:44:43 this <HighLightTag>log</HighLightTag> is Error NO 2",
    "labels" : {
      "hostName" : "ecs-kwxtest",
      "hostIP" : "192.168.0.156",
      "appName" : "default_appname",
      "containerName" : "CONFIG_FILE",
      "clusterName" : "CONFIG_FILE",
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
      "podName" : "default_procname",
      "clusterId" : "CONFIG_FILE",
      "nameSpace" : "CONFIG_FILE",
      "category" : "LTS"
    }
  }
]
```

```
"line_num" : "1595659490239433655"
}, {
  "content" : "2020-07-25/14:44:44 this <HighLightTag>log</HighLightTag> is Error NO 3",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
    "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
    "podName" : "default_procname",
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433656"
}, {
  "content" : "2020-07-25/14:44:45 this <HighLightTag>log</HighLightTag> is Error NO 4",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
    "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
    "podName" : "default_procname",
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433657"
}, {
  "content" : "2020-07-25/14:44:46 this <HighLightTag>log</HighLightTag> is Error NO 5",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
    "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
    "podName" : "default_procname",
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433658"
}, {
  "content" : "2020-07-25/14:44:47 this <HighLightTag>log</HighLightTag> is Error NO 6",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
    "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
    "podName" : "default_procname",
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433659"
}, {
  "content" : "2020-07-25/14:44:48 this <HighLightTag>log</HighLightTag> is Error NO 7",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
```

```
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433660"
}, {
"content" : "2020-07-25/14:44:49 this <HighLightTag>log</HighLightTag> is Error NO 8",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433661"
}, {
"content" : "2020-07-25/14:44:50 this <HighLightTag>log</HighLightTag> is Error NO 9",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490839420574"
}, {
"content" : "2020-07-25/14:44:51 this <HighLightTag>log</HighLightTag> is Error NO 10",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659491839412667"
}
}]
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 6**, **NO 7**, and **NO 8** are the target log events):

```
{
"count" : 32,
"logs" : [ {
"content" : "2020-07-25/14:44:47 this <HighLightTag>log</HighLightTag> is Error NO 6",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
```

```
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433659"
}, {
"content" : "2020-07-25/14:44:48 this <HighLightTag>log</HighLightTag> is Error NO 7",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433660"
}, {
"content" : "2020-07-25/14:44:49 this <HighLightTag>log</HighLightTag> is Error NO 8",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433661"
}
}]
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 8**, **NO 7**, and **NO 6** are the target log events):

```
{
"count" : 32,
"logs" : [ {
"content" : "2020-07-25/14:44:49 this <HighLightTag>log</HighLightTag> is Error NO 8",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
"clusterId" : "CONFIG_FILE",
"nameSpace" : "CONFIG_FILE",
"category" : "LTS"
},
"line_num" : "1595659490239433661"
}, {
"content" : "2020-07-25/14:44:48 this <HighLightTag>log</HighLightTag> is Error NO 7",
"labels" : {
"hostName" : "ecs-kwxtest",
"hostIP" : "192.168.0.156",
"appName" : "default_appname",
"containerName" : "CONFIG_FILE",
"clusterName" : "CONFIG_FILE",
"hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
"podName" : "default_procname",
```

```
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433660"
}, {
  "content" : "2020-07-25/14:44:47 this <HighLightTag>log</HighLightTag> is Error NO 6",
  "labels" : {
    "hostName" : "ecs-kwxtest",
    "hostIP" : "192.168.0.156",
    "appName" : "default_appname",
    "containerName" : "CONFIG_FILE",
    "clusterName" : "CONFIG_FILE",
    "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
    "podName" : "default_procname",
    "clusterId" : "CONFIG_FILE",
    "nameSpace" : "CONFIG_FILE",
    "category" : "LTS"
  },
  "line_num" : "1595659490239433659"
} ]
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 2**, **NO 3**, and **NO 4** are the target log events):

```
{
  "count" : 32,
  "logs" : [ {
    "content" : "2020-07-25/14:44:43 this <HighLightTag>log</HighLightTag> is Error NO 2",
    "labels" : {
      "hostName" : "ecs-kwxtest",
      "hostIP" : "192.168.0.156",
      "appName" : "default_appname",
      "containerName" : "CONFIG_FILE",
      "clusterName" : "CONFIG_FILE",
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
      "podName" : "default_procname",
      "clusterId" : "CONFIG_FILE",
      "nameSpace" : "CONFIG_FILE",
      "category" : "LTS"
    },
    "line_num" : "1595659490239433655"
  }, {
    "content" : "2020-07-25/14:44:44 this <HighLightTag>log</HighLightTag> is Error NO 3",
    "labels" : {
      "hostName" : "ecs-kwxtest",
      "hostIP" : "192.168.0.156",
      "appName" : "default_appname",
      "containerName" : "CONFIG_FILE",
      "clusterName" : "CONFIG_FILE",
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
      "podName" : "default_procname",
      "clusterId" : "CONFIG_FILE",
      "nameSpace" : "CONFIG_FILE",
      "category" : "LTS"
    },
    "line_num" : "1595659490239433656"
  }, {
    "content" : "2020-07-25/14:44:45 this <HighLightTag>log</HighLightTag> is Error NO 4",
    "labels" : {
      "hostName" : "ecs-kwxtest",
      "hostIP" : "192.168.0.156",
      "appName" : "default_appname",
      "containerName" : "CONFIG_FILE",
      "clusterName" : "CONFIG_FILE",
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",
      "podName" : "default_procname",
      "clusterId" : "CONFIG_FILE",

```

```
    "nameSpace" : "CONFIG_FILE",  
    "category" : "LTS"  
  },  
  "line_num" : "1595659490239433657"  
}]  
}
```

- For a pagination query (Assume that the search starts from the log event containing **NO 5**. Log events containing **NO 4**, **NO 3**, and **NO 2** are the target log events):

```
{  
  "count" : 32,  
  "logs" : [ {  
    "content" : "2020-07-25/14:44:45 this <HighLightTag>log</HighLightTag> is Error NO 4",  
    "labels" : {  
      "hostName" : "ecs-kwxtest",  
      "hostIP" : "192.168.0.156",  
      "appName" : "default_appname",  
      "containerName" : "CONFIG_FILE",  
      "clusterName" : "CONFIG_FILE",  
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",  
      "podName" : "default_procname",  
      "clusterId" : "CONFIG_FILE",  
      "nameSpace" : "CONFIG_FILE",  
      "category" : "LTS"  
    },  
    "line_num" : "1595659490239433657"  
  }, {  
    "content" : "2020-07-25/14:44:44 this <HighLightTag>log</HighLightTag> is Error NO 3",  
    "labels" : {  
      "hostName" : "ecs-kwxtest",  
      "hostIP" : "192.168.0.156",  
      "appName" : "default_appname",  
      "containerName" : "CONFIG_FILE",  
      "clusterName" : "CONFIG_FILE",  
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",  
      "podName" : "default_procname",  
      "clusterId" : "CONFIG_FILE",  
      "nameSpace" : "CONFIG_FILE",  
      "category" : "LTS"  
    },  
    "line_num" : "1595659490239433656"  
  }, {  
    "content" : "2020-07-25/14:44:43 this <HighLightTag>log</HighLightTag> is Error NO 2",  
    "labels" : {  
      "hostName" : "ecs-kwxtest",  
      "hostIP" : "192.168.0.156",  
      "appName" : "default_appname",  
      "containerName" : "CONFIG_FILE",  
      "clusterName" : "CONFIG_FILE",  
      "hostId" : "9787ef31-fd7b-4eff-ba71-72d580f11f55",  
      "podName" : "default_procname",  
      "clusterId" : "CONFIG_FILE",  
      "nameSpace" : "CONFIG_FILE",  
      "category" : "LTS"  
    },  
    "line_num" : "1595659490239433655"  
  } ]  
}
```

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{  
  "error_code" : "LTS.0009",  
  "error_msg" : "Failed to validate the request body"  
}
```

Status code: 401

Authentication failed. Check the token and try again.

```
{
  "error_code" : "LTS.0003",
  "error_msg" : "Invalid token"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

```
{
  "error_code" : "LTS.0202",
  "error_msg" : "Failed to query lts log"
}
```

Status Codes

Status Code	Description
200	The request is successful.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
401	Authentication failed. Check the token and try again.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

5.4 Log Transfer

5.4.1 Creating a Log Transfer Task (Old Version)

Function

This API is used to transfer logs of one or more specified log streams to Object Storage Service (OBS).

URI

POST /v2/{project_id}/log-dump/obs

Table 5-56 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. For details about how to obtain it, see Obtaining a Project ID .

Request Parameters

Table 5-57 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM. For details about how to obtain it, see Obtaining a User Token .
Content-Type	Yes	String	Set this parameter to application/json;charset=UTF-8 .

Table 5-58 Request body parameters

Parameter	Mandatory	Type	Description
log_group_id	Yes	String	Log group ID.
log_stream_ids	Yes	Array of strings	IDs of log streams whose logs are to be periodically transferred to OBS. You can specify one or more log streams.
obs_bucket_name	Yes	String	OBS bucket name.

Parameter	Mandatory	Type	Description
type	Yes	String	For scheduled transfer, this parameter must be set to cycle .
storage_format	Yes	String	Whether the logs are stored in raw or JSON format. The default value is RAW . Minimum characters: 3 Maximum characters: 4
switch_on	No	Boolean	Whether log transfer is enabled. The value is true (default) or false .
prefix_name	No	String	File name prefix of the log files transferred to an OBS bucket.
dir_prefix_name	No	String	Custom path to store the log files.
period	Yes	Integer	Length of the log transfer interval.
period_unit	Yes	String	Unit of the log transfer interval.> The log transfer interval is specified by the combination of the values of period and period_unit and must be set to one of the following: 2min , 5min , 30min , 1hour , 3hour , 6hour , or 12hour .

Response Parameters

Status code: 201

Table 5-59 Response body parameters

Parameter	Type	Description
log_dump_obs_id	String	Transfer task ID.

Status code: 400

Table 5-60 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 403**Table 5-61** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500**Table 5-62** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Requests

Create a log transfer task.

```
POST https://{endpoint}/v2/{project_id}/log-dump/obs

/v2/{project_id}/log-dump/obs
{
  "log_group_id": "d9dba9f3-xxxx-48bd-xxxx-xxxxa24a8053",
  "log_stream_ids": ["45e7f609-xxxx-4cd3-835b-xxxx4a124718"],
  "obs_bucket_name": "lts-test",
  "type": "cycle",
  "storage_format": "RAW",
  "switch_on": "true",
  "prefix_name": "fileprefixname",
  "dir_prefix_name": "dirprefixname",
  "period": 5,
  "period_unit": "min"
}
```

Example Responses

Status code: 201

The request is successful.

```
{
  "log_dump_obs_id" : "45fdc36b-xxxx-4567-xxxx-559xxxxdf968"
}
```

Status code: 400

The request is invalid. Modify the request based on the description in **error_msg** before a retry.

BadRequest: The request is invalid. Modify the request based on the description in **error_msg** before a retry.

```
{
  "error_code": "LTS.0007",
  "error_msg": "The request body format must be json"
}
```

Status code: 403

The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "LTS.0001",
  "error_msg" : "Invalid projectId"
}
```

Status code: 500

The server has received the request but encountered an internal error.

InternalServerError: The server has received the request but encountered an internal error.

```
{
  "error_code": "LTS.0010",
  "error_msg": "Internal Server Error"
}
```

Status Codes

Status Code	Description
201	The request is successful.
400	The request is invalid. Modify the request based on the description in error_msg before a retry.
403	The request is rejected. The server has received the request and understood it, but refuses to respond to it. The client should not repeat the request without modifications.
500	The server has received the request but encountered an internal error.
503	The requested service is unavailable.

Error Codes

See [Error Codes](#).

6 Permissions Policies and Supported Actions

This section describes fine-grained permissions management for your LTS. If your account does not require IAM users, you can skip this section.

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specified operations on cloud services based on the permissions.

You can grant users permissions by using roles and policies. Roles are a type of coarse-grained authorization mechanism that defines service-level permissions based on user responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

You can use policies to allow or deny access to specific APIs.

An account has all of the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API. For example, if an IAM user queries log metrics using an API, the user must have been granted permissions that allow the **aom:metric:get** action.

Supported Actions

LTS provides system-defined policies that can be directly used. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Operations supported by policies are specific to APIs. The following are basic concepts related to policies:

- Permissions: Statements in a policy that allow or deny certain operations.
- APIs: REST APIs that can be called by users with the required permissions.
- Actions: Specific operations that are allowed or denied.

- Related actions: Actions on which a specific action depends to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the related actions.
- IAM or enterprise projects: Type of projects for which permissions can be granted. Policies that contain actions for both IAM and enterprise projects take effect for both IAM and Enterprise Management. Policies that only contain actions for IAM projects take effect only for IAM.

 NOTE

The check mark (√) and cross symbol (x) respectively indicate that a permission can be or cannot be granted for the corresponding type of projects.

Permissi on	API	Action	Related Action	IA M Pr oje ct	Enterp rise Projec t
Creating a log group	POST /v2/{project_id}/groups	lts:groups:create	-	√	x
Querying all log groups of an account	GET /v2/{project_id}/groups	lts:groups:list	-	√	x
Deleting a log group	DELETE /v2/{project_id}/groups/{log_group_id}	lts:groups:delete	-	√	x
Creating a log stream	POST /v2/{project_id}/groups/{log_group_id}/streams	lts:topics:create	-	√	√
Querying all log streams in a specified log group	GET /v2/{project_id}/groups/{log_group_id}/streams	lts:topics:list	-	√	√
Deleting a log stream	DELETE /v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}	lts:topics:delete	-	√	√

Permissi on	API	Action	Related Action	IA M Pr oje ct	Enterp rise Projec t
Querying logs	POST /v2/{project_id}/groups/{log_group_id}/streams/{log_stream_id}/content/query	lts:logs:list	-	√	x
Transferring logs to OBS	POST /v2/{project_id}/log-dump/obs	lts:transfer:s:create	obs:bucket:CreateBucket obs:bucket:HeadBucket obs:bucket:GetLifecycleConfiguration obs:bucket:PutLifecycleConfiguration obs:bucket:GetBucketAcl obs:bucket:PutBucketAcl	√	x

7 Appendix

7.1 Status Codes

Table 1 lists the status codes.

Table 7-1 Status codes

Status Code	Returned Value	Description
200	OK	The normal response for the GET or PUT operation is returned.
201	OK	The POST request is successful and the query result is returned.
204	No Content	The normal response for the DELETE operation is returned.
400	Bad Request	Request error.
401	Unauthorized	The authentication information is not provided or is incorrect.
403	Forbidden	You are forbidden to access the page requested.
404	Not Found	The server failed to find the requested resource.
408	Request Timeout	The request timed out.
429	Too Many Requests	The number of requests exceeded the upper limit.
500	Internal Server Error	The server encountered an unexpected condition which prevented it from fulfilling the request.
503	Service Unavailable	The service is currently unavailable.

7.2 Error Codes

Status Code	Error Codes	Error Message	Description	Solution
400	LTS.0009	Failed to validate the request body.	Parameter verification failed.	Modify request parameters based on the returned error information and try again.
400	LTS.0010	The system encountered an internal error	An internal error occurred	An internal error occurred in LTS. Contact technical support.
400	LTS.0201	The log group is not existed	Failed to create the log stream because the associated log group does not exist.	Check whether the ID of the log group is correct.
400	LTS.0208	Log stream is associated by transfer	The log stream does not exist.	Check whether the log stream to be deleted exists.
400	LTS.0301	'*' and '?' not allowed as first character	Asterisks (*) and question marks (?) are placed in the middle or at the end of a keyword.	Check the keywords field based on the error information.
400	LTS.2001	Failed to create alarm rule	Creation error.	Check whether the project ID is correct.
400	LTS.2002	Failed to delete alarm rule	Deletion error.	Check whether the database or network connection is normal.
400	LTS.2003	Failed to update alarm rule	Modification error.	Abnormal connection to the database. Check the database instance status.

Status Code	Error Codes	Error Message	Description	Solution
400	LTS.2004	The size of alarm rule has exceed the limit: 200	The number of alarm rules cannot exceed 200.	Delete existing alarm rules that are no longer used.
400	LTS.2005	The parameter is incorrect	Incorrect parameter.	Correct the parameter based on the returned error information.
400	LTS.2006	Alarm rule name has already exist	The alarm rule name already exists.	Use another alarm rule name.
400	LTS.2007	Alarm rule not exist	The alarm rule does not exist.	Check whether the alarm rule exists.
400	LTS.2008	Find Alarm rule failed	Failed to query the alarm rule.	Check whether the database or network connection is normal.
400	LTS.2009	User must have SMN service authority	You must have the permissions on SMN.	Acquire the permissions on SMN.
400	LTS.2010	Topics cannot be empty	The SMN topic cannot be empty.	Check whether the SMN topic is empty.
400	LTS.2011	Alarm rule invalid query frequency or invalid cron expression	Invalid query frequency or cron expression.	Check the query frequency or cron expression.
400	LTS.2012	The query time range cannot be larger than 1 hour when the query frequency is less than every 5 minutes.	The query time range cannot be larger than 1 hour when the query frequency is less than every 5 minutes.	Check the query time range and query frequency.

Status Code	Error Codes	Error Message	Description	Solution
400	LTS.2013	Send Subject Error	Incorrect SMN topic.	Correct the topic based on the error information.
403	LTS.0003	No permission.	Invalid role	Grant the LTS service permission.
403	LTS.0011	Invalid projectId	Invalid project ID.	Ensure that the project ID in the URL is the same as that in the token.
500	LTS.0107	Current user does not have the permission to operate this group	Failed to update the log group.	Abnormal connection to the database. Check the database instance status.

7.3 Obtaining a Project ID

Scenario

A project ID is required for some URLs when an API is called. Obtain a project ID using either of the following methods:

- [Obtaining a Project ID by Calling an API](#)
- [Obtaining a Project ID on the Console](#)

Obtaining a Project ID by Calling an API

You can obtain the project ID by calling the API used to [Querying Project Information](#).

The API for obtaining a project ID is **GET [https://{Endpoint}/v3/projects](#)**, where *{Endpoint}* indicates the IAM endpoint. You can obtain the IAM endpoint from the administrator. For details about API authentication, see [Authentication](#).

The following is an example response. The value of **id** is the project ID.

```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
```

```
    "previous": null,  
    "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"  
  },  
  "id": "a4a5d4098fb4474fa22cd05f897d6b99",  
  "enabled": true  
}  
],  
"links": {  
  "next": null,  
  "previous": null,  
  "self": "https://www.example.com/v3/projects"  
}  
}
```

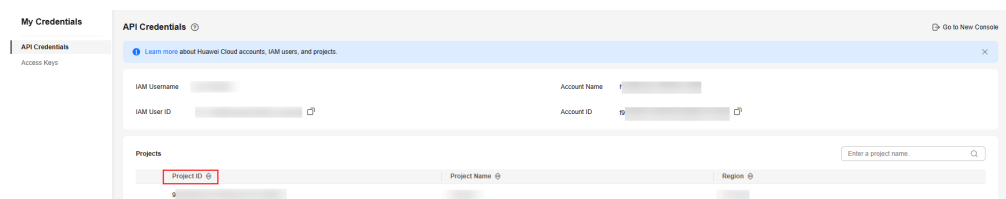
Obtaining a Project ID on the Console

A project ID is required for some URLs when APIs are called. Therefore, obtain a project ID on the console in advance.

The steps are as follows:

1. Log in to the console.
2. Hover over the username in the upper right corner and choose **My Credentials** from the drop-down list.
3. On the **API Credentials** page, view project IDs in the project list.

Figure 7-1 Checking project IDs

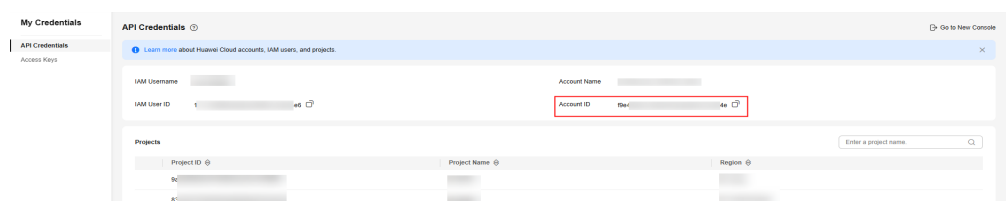


7.4 Obtaining an Account ID

An account ID is required for some URLs when APIs are called. Therefore, obtain an account ID on the console in advance. The steps are as follows:

1. Log in to the console.
2. Hover over the username in the upper right corner and choose **My Credentials** from the drop-down list.
3. On the **API Credentials** page, view **Account ID**.

Figure 7-2 Viewing the account ID

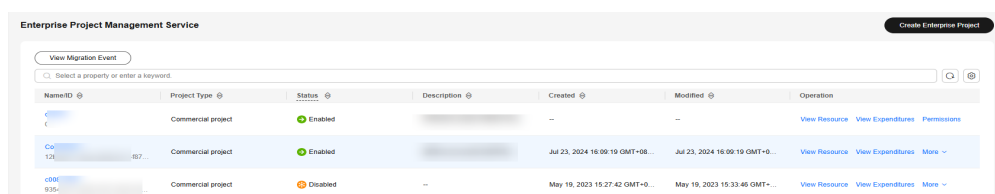


7.5 Obtaining an Enterprise Project ID

When making API calls, you may need to enter an enterprise project ID in some URIs. You can obtain it on the **Enterprise** page.

1. Log in to the console.
2. Hover your cursor over **Enterprise** in the upper right corner and choose **Project Management**.
3. In the **Name/ID** column, copy the target enterprise project ID or click the target enterprise project name to view more details.

Figure 7-3 Obtaining an enterprise project ID

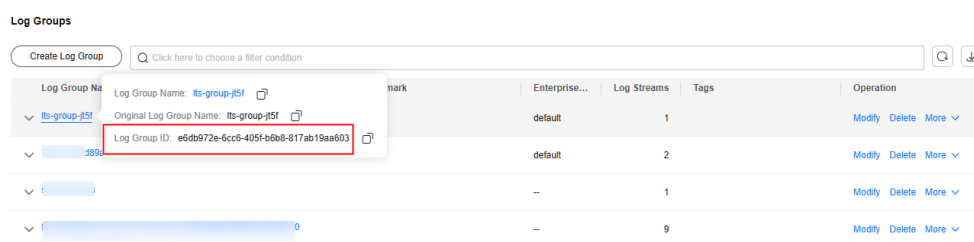


7.6 Obtaining Log Group and Log Stream IDs

When making API calls, you may need to enter log group and log stream IDs in some URIs. You can obtain it on the **Log Management** page.

1. Log in to the LTS console.
2. On the **Log Management** page, move the cursor to a log group name to view the log group ID.

Figure 7-4 Viewing a log group ID



3. Click  of the target log group and move the cursor to a log stream name to view the log stream ID.

Figure 7-5 Viewing a log stream ID

